

Supplemental Material

European Birth Cohorts for Environmental Health Research

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Annex 1: ENRIECO Inventory Questionnaire

A. Basic Protocol Description (update of www.birthcohorts.net)

A1. Identification

- Cohort name:
- Principal investigator:
- Contact(s) for environmental exposures:
- Cohort website:
- Key publication(s) of cohort protocol/methods/description:

A2. Basic Description

- Main aim/objectives/focus of cohort:
- Source population
 - ☐ nation-based
 - ☐ region-based
 - ☐ hospital-based
 - ☐ selected (high-risk, exposure etc.), describe:
 - ☐ other:
- Geographical coverage, please describe: _____
- Calendar period of enrolment – calendar years of start and finish: _____
- Enrolment - status:
 - ☐ completed
 - ☐ ongoing
 - ☐ planned
- Developmental period of enrolment – give developmental period of start of enrolment:
 - ☐ pre-pregnancy
 - ☐ pregnancy, give pregnancy week(s) _____ weeks of pregnancy
 - ☐ at birth
 - ☐ postnatal, give month(s) _____ months of age
- Enrolment criteria, please describe in and exclusion criteria:
- Expected number of participants at enrolment when enrolment completed:
_____ mothers _____ fathers _____ children
- Expected duration of follow-up: _____ years

A3. Basic Data Collection Scheme

| Type of data collection (Give estimate of number of subjects for each period where data/samples are available: N=XXX) | Pregnancy | | | Birth | Post natal | | | | |
|---|---------------------------|---------------|---------------|-------|------------|-------------|--------------|------------|-----------|
| | 1 st trimester | 2nd trimester | 3rd trimester | | 0-6 months | 7-18 months | 18-60 months | 5-10 years | 10+ years |
| Questionnaires: | | | | | | | | | |
| maternal exposures | | | | | | | | | |
| paternal exposures | | | | | | | | | |
| offspring exposures | | | | | | | | | |
| maternal outcomes | | | | | | | | | |
| paternal outcomes | | | | | | | | | |
| offspring outcomes | | | | | | | | | |
| Biological samples: | | | | | | | | | |
| maternal blood | | | | | | | | | |
| paternal blood | | | | | | | | | |
| cord blood | | | | | | | | | |
| offspring blood | | | | | | | | | |
| maternal urine | | | | | | | | | |
| paternal urine | | | | | | | | | |
| offspring urine | | | | | | | | | |
| maternal other (hair, nails, saliva, breast milk, etc.) | | | | | | | | | |
| Paternal other (hair, nails, saliva etc.) | | | | | | | | | |
| offspring other (hair, nails, saliva, etc.) | | | | | | | | | |

B. Exposure Assessment

B1. Outdoor Air Pollution

- Were *outdoor* air pollution exposures assessed for the members of your cohort?

- ☐ yes
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no, please proceed to part B2

- Which air pollutants were/will be assessed (*multiple answers possible*)?

- ☐ nitrogen dioxide (NO₂)
- ☐ nitrogen oxides (NO_x)
- ☐ particulate matter < 10 µg in diameter (PM₁₀)
- ☐ particulate matter < 2.5 µg in diameter (PM_{2.5})
- ☐ soot content of particulate matter
- ☐ ozone (O₃)
- ☐ others: _____

- Which types of exposure assessment were/will be used (*multiple answers possible*)?

- ☐ dispersion modelling
- ☐ land-use regression modelling
- ☐ routine air monitoring network measurements (e.g. nearest monitor, interpolation)
- ☐ exposure indicator variables (e.g. traffic density; proximity to traffic/industry from geographic information system)
- ☐ questionnaires (e.g. self-reported traffic densities; proximity to traffic or industrial sources; wood smoke exposure). Please describe: _____
- ☐ individual measurements (e.g. personal monitoring, stationary measurements outside/inside participants' homes). Please describe: _____

- Details of the assessments (complete table with pollutant, assessment method, timing, and rough number of assessments):

| Type of air pollution assessment | | Pregnancy (mother) | | | Post natal (child) | Number/% of the cohort |
|----------------------------------|--------|-----------------------|-----------|-----------------------|--------------------|------------------------|
| Air pollutant | Method | 1 st trim. | 2nd trim. | 3 rd trim. | Age | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| <i>Completed:</i> | | | | | | |
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| | | | | | | |
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| <i>Planned:</i> | | | | | | |
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B2. Indoor Contaminants (for example from combustion sources, cleaning products, or any indoor exposures not already included in other sections)

- **Were exposures to *indoor* contaminants assessed for the members of your cohort?**

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to part B3)

- **Which indoor contaminants were/will be assessed?**

- ☐ nitrogen dioxide (NO₂)
☐ VOCs
☐ gas cooking / heating / appliances
☐ cleaning products
☐ others:

- **Which types of exposure assessment were/will be used (*multiple answers possible*)?**

- ☐ modelling
☐ individual measurements (e.g. personal monitoring, indoor air monitoring)
☐ questionnaires (e.g. use of gas cookers, type of heating system, use of cleaning products)
☐ other:

- **Details of the assessments (complete table with pollutant/contaminant, assessment method, timing, and rough number of assessments):**

| Type of indoor contaminant assessment | | Pregnancy (mother) | | | Post natal (child) | Number/% of the cohort |
|---------------------------------------|--------|-----------------------|-----------|-----------------------|--------------------|------------------------|
| contaminant | Method | 1 st trim. | 2nd trim. | 3 rd trim. | Age | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| <i>Completed:</i> | | | | | | |
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Further description:

B3. Water Contamination

• **Were water contaminants assessed for the members of your cohort?**

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part B4)

• **Which water contaminants were/will be assessed?**

- ☐ disinfection by products
☐ pesticides
☐ metals
☐ endocrine disrupting substances
☐ others: _____

• **Which type of assessment/questionnaire questions are/were used?**

- ☐ routine monitoring water concentration data from water companies or government
☐ newly collected water concentration data (measurements)
☐ questionnaire:
 ☐ information on tap/bottled water ingestion
 ☐ information on coffee, tea and other tap water based beverage ingestion
 ☐ information on swimming habits
 ☐ information on showering/bathing habits
☐ personal biomonitoring
☐ other:

• **Details of the assessments (complete table with pollutant/contaminant, assessment method, timing, and rough number of assessments):**

| Type of water contaminant assessment | | Pregnancy (mother) | | | Post natal (child) | Number/% of the cohort |
|--------------------------------------|--------|-----------------------|-----------|-----------------------|--------------------|------------------------|
| contaminant | Method | 1 st trim. | 2nd trim. | 3 rd trim. | Age | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Completed | | | | | | |
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| Planned: | | | | | | |
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Further description:

B4. Allergens and biological organisms

- Were exposures to allergens and biological organisms assessed for the members of your cohort?

- ☐ yes
- ☐ not yet, but planned. Please give predicted year of completion: 20____
- ☐ no (proceed to part B5)

- Which allergens and biological organisms were assessed or will be assessed (*indicate whether completed or planned*)?

| Type of allergens | Assessment method | | Timing of the assessment (please specify) | | | % or N of the cohort measured |
|-------------------------------|---|-----------------------------|---|-----------------------------|------------------------|-------------------------------|
| | Direct measurement from house dust or air samples | Surrogate* (please specify) | During pregnancy | 0-1 years (up to 12 months) | During Early Childhood | |
| Mite- Der p | | | | | | |
| Der f | | | | | | |
| Pets- Cat | | | | | | |
| Dog | | | | | | |
| Other pets (please specify) | | | | | | |
| Mold-Cladosporium | | | | | | |
| Penicillium | | | | | | |
| Aspergillus | | | | | | |
| Alternaria | | | | | | |
| Other mold allergens | | | | | | |
| Cockroach | | | | | | |
| Pollen | | | | | | |
| Other | | | | | | |
| Other bio-contaminant: | | | | | | |
| Pests & Vermin | | | | | | |
| Endotoxin | | | | | | |
| Mold-Eps | | | | | | |
| Glucan | | | | | | |
| Other mold species | | | | | | |
| Other | | | | | | |

* Please specify the surrogate measures, for example: cat ownership for cat allergen, humidity for mold exposure in general, spore counts for mold allergen, season of birth for specific pollen.

B5. Heavy Metals

- Was exposure to heavy metals assessed for the members of your cohort?

- ☐ yes
- ☐ not yet, but planned. Please give predicted year of completion: 20____
- ☐ no (please proceed to part B6)

- Which agents were/will be assessed?

- ☐ mercury (Hg)
- ☐ lead (Pb)
- ☐ cadmium (Cd)
- ☐ arsenic (As)
- ☐ manganese (Mn)
- ☐ total metals spectrum
- ☐ other: _____

- Which type of assessment was/will be used?

- ☐ biological sampling
- ☐ environmental sampling
- ☐ questionnaires
- ☐ occupational exposure / JEM
- ☐ dietary exposure (please specify: _____)
- ☐ through tap water consumption

- Details of the biomonitoring analyses (complete table with heavy metal, medium, person, timing, and rough number analysed):

| Type of heavy metal assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|--------------------------------|--------|-----------------------|-----------------------|-----------------------|-------------------------|--------------------|--------|
| Metals | Medium | 1 st trim. | 2 nd trim. | 3 rd trim. | | Age | Number |
| | | | | | | | |
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| <i>Completed:</i> | | | | | | | |
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| <i>Planned:</i> | | | | | | | |
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B6. Pesticides

- Was exposure to pesticides assessed for the members of your cohort?

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (please proceed to part B7)

Assessment of exposure at *individual* level

- Which type of assessment was/will be used?

- ☐ biological sampling
☐ questionnaire data on self-reported pesticide use (in home)
☐ occupational exposure
☐ dietary exposure
☐ environmental survey (dust, etc...)
☐ other: _____

- Details of the assessments (complete table with pesticides type, medium, person, timing, and rough number of assessments):

| Type of pesticide assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|------------------------------|--------|-----------------------|--------------|-----------------------|-------------------------------|--------------------|--------|
| Pesticide | Medium | 1 st trim. | 2nd trim. | 3 rd trim. | | Age | Number |
| | | | | | | | |
| | | | | | | | |
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| Completed: | | | | | | | |
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| Planned: | | | | | | | |
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Assessment of exposure at a *geographical* level:

- Which type of assessment was/will be used?

- ☐ land/crop data:
geographical scale (national, regional, etc.): _____
years available (relevant to your cohort): _____
- ☐ pesticide usages in crops:
official recommendations or real uses: _____
geographical scale (national, regional, etc.): _____
years available (relevant to your cohort): _____
- ☐ drinking water contamination:
groups of pesticides: _____
frequency (yearly, monthly, etc.): _____
- ☐ air measurements:
groups of pesticides: _____
frequency (yearly, monthly, etc.): _____

B7. Radiations: EMF/UV/ionising

- Were any of the following sources of non-ionising or ionising radiation exposure assessed for the members of your cohort?

- ☐ power lines
- ☐ mobile phone handsets (use of a mobile phone)
- ☐ mobile phone base stations
- ☐ other RF exposures such as WiFi, cordless phones
- ☐ occupational EMF exposure
- ☐ sun (sun bathing, sun beds, application of protection creams, etc)
- ☐ medical ionising radiation exposures (CT scans, X-rays, interventional cardiology procedures)
- ☐ residential radon exposure
- ☐ not yet, but planned. Please give predicted year of completion for the specific exposure:
- ☐ no (proceed to part B8)

- Which type of assessment was/will be used? (*copy for each exposure source separately*)

- ☐ personal monitors
- ☐ environmental measurements
- ☐ questionnaire data
- ☐ geographical data on source location (for power lines, mobile phone base stations, radon)
- ☐ individual data from mobile phone network operators
- ☐ occupational exposure / JEM

- Details of the assessments (complete table with type of assessment, person, timing, and rough number of assessments):

| Type of assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|--------------------|--------|-----------------------|-----------|-----------------------|----------------------------|--------------------|--------|
| Exposure | Method | 1 st trim. | 2nd trim. | 3 rd trim. | | Age | Number |
| | | | | | | | |
| | | | | | | | |
| <i>Completed:</i> | | | | | | | |
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| <i>Planned:</i> | | | | | | | |
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B8. Smoking and Second-hand Smoke (SHS)

A. Active smoking of the *mother*

- Was exposure to *active* tobacco smoke assessed for the members of your cohort?

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to second-hand smoke)

- Which type of assessment was used for verifying active smoking (of the mother)?

☐ biological sampling
☐ questionnaire data (self report)
☐ other: _____

- If biomarkers were used to verify active smoking status, if known, what was the cut-off used?

☐ serum cotinine > _____ ng/ml
☐ urinary cotinine > _____ ng/ml

- If questionnaires were used, which of the following information is available:

☐ number of cigarettes smoked per day/week/month
 ☐ at one point during pregnancy
 ☐ at different time points during pregnancy
 ☐ before pregnancy
☐ time (week/month) before conception at which mother quit smoking
☐ time (week/month) during pregnancy at which mother quit smoking
☐ other: _____

B. Passive smoking / second-hand smoke (SHS)

- Was exposure to *passive* tobacco smoke / environmental tobacco smoke /second hand smoke (SHS) assessed for the members of you cohort?

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20_____
☐ no (proceed to part B9)

- For which members of your cohort did you collect information of exposure to SHS?

☐ pregnant women
☐ children, age:
☐ other: _____

- Which type of assessment was used for evaluating exposure to SHS (mother/child)?

☐ biological sampling (i.e cotinine, NNAL)
☐ environmental measurements (nicotine dosimeters, indoor PM 2.5 monitors, dust swipes)
☐ questionnaire data (who smokes at home, at work, visiting smoky places)
☐ other: _____

- **Details of the active and passive smoking assessments (complete table with type, method, person, timing, and rough number of assessments):**

| Type of smoking assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|--|--------|-----------------------|-----------------------|-----------------------|-------------------------------|--------------------|--------|
| Compound | Medium | 1 st trim. | 2 nd trim. | 3 rd trim. | | Age | Number |
| <i>Completed:</i> | | | | | | | |
| NNAL | | | | | | | |
| Cotinine | | | | | | | |
| Maternal smoking | | | | | | | |
| Smoking in home | | | | | | | |
| Smoking in working place | | | | | | | |
| Smoking in bars/cafes (before ban of tobacco smoke) | | | | | | | |
| | | | | | | | |
| <i>Planned:</i> | | | | | | | |
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B9. Noise

- Was noise exposure assessed for the members of your cohort?

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part B10)

A. Objective assessment

- Was noise data collected by *objective* assessments – noise measurements or noise maps?

- ☐ yes
☐ no

- If yes please provide details: _____

B. Passive assessment

- Was noise data collected by *subjective* assessments?

☐ yes: participants were asked for subjective description of noise exposure:

- ☐ at home
☐ during day
☐ at night
☐ roads/traffic
☐ airplanes
☐ other: _____

☐ yes: personal feeling of noise annoyance/disturbance (degree with Likert scale etc)

☐ no

- Details of the noise assessments (complete table with type of assessment, timing, and rough number of assessments):

| Type of noise assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|--------------------------|------------------------|-----------------------|--------------|-----------------------|-------------------------------|--------------------|--------|
| Noise | Type of measurement | 1 st trim. | 2nd trim. | 3 rd trim. | | Age | Number |
| | | | | | | | |
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| Completed: | | | | | | | |
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| Planned: | | | | | | | |
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B10. POPs

- Was exposure to POPs (PCBs, dioxins, etc.) assessed in biological samples for the members of your cohort?

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part B11)

- Which (groups of) POPs were assessed?

- ☐ aldrin
☐ chlordane
☐ DDT and metabolites
☐ dieldrin and endrin
☐ heptachlor
☐ hexachlorobenzene
☐ mirex
☐ polychlorinated biphenyls
☐ polychlorinated dibenzo-p-dioxins
☐ polychlorinated dibenzo furans
☐ toxaphene
☐ brominated flame retardants
☐ fluorinated compounds
☐ organometallic compounds (TBT)
☐ other: _____

- Details of the assessments (complete table with POP type, medium, person, timing, and rough number of assessments):

| Type of POP assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|------------------------|--------|-----------------------|--------------|-----------------------|-------------------------------|--------------------|--------|
| POPs | Medium | 1 st trim. | 2nd trim. | 3 rd trim. | | Age | Number |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| <i>Completed:</i> | | | | | | | |
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| <i>Planned:</i> | | | | | | | |
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- Was fatty acids measured in the blood samples?

- ☐ yes, specify which _____
☐ no
☐ not yet, but planned

B11. Occupation

- B11a. Was occupational history collected for the members of your cohort?**

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to B11.b)

- Please tick below the periods for which this data was collected and whether it is available for mother and father? Please indicate whether data was collected *prospectively* or *retrospectively*?**

| | Before pregnancy | Pregnancy | | | Retrospective or prospective | Timing of the questionnaire |
|--------|------------------|---------------------------|---------------|---------------------------|------------------------------|-----------------------------|
| | | 1 st trimester | 2nd trimester | 3 rd trimester | | |
| | | | | | | |
| Mother | | | | | | |
| Father | | | | | | |
| | | | | | | |

- Indicate below the codes used for recording occupation and industrial activity in your cohort:**

- ☐ occupation (ie ILO 1968, or national coding system): _____
☐ industrial activity (ie ISIC 1971): _____
☐ no coding, but checklist of occupations
☐ no coding, but recording of job title and/or task performed

- B11.b Was any specific occupational exposure assessed?**

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

- If yes, specify the list of occupational exposures assessed (*ie solvents, hair sprays, mercury, endocrine disruptors, etc...*):**

- Which type of assessment was used? (*copy the section for each category of exposure*):**

- ☐ biological sampling
☐ environmental sampling
☐ questionnaires on specific exposures or jobs (e.g. health care workers, hairdressers, agriculture, etc)
☐ Job Exposure Matrix (JEM)
☐ expert judgment
☐ other: _____

- Please provide details for the specific occupational exposures. Please indicate whether data was collected prospectively or retrospectively?

| Assessment | Before pregnancy | Pregnancy | | | Retrospective or prospective |
|------------|------------------|---------------------------|---------------|---------------------------|------------------------------|
| | | 1 st trimester | 2nd trimester | 3 rd trimester | |
| | | | | | |
| | | | | | |
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B11c. Other data available at a national level:

- Are you aware of any JEMs built in your country in the recent period (covering the enrolment period of your cohort)?

☐

yes

☐

no (please proceed to part B12)

- Which exposures were assessed?

- Which coding system was used?

- Please give a reference or report number describing these JEMs:

B12. Other chemical exposures: e.g. BPA, phthalates, etc.

- **Was exposure to any other chemicals assessed for the members of you cohort?**

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

- **Which agents were/will be assessed?**

- ☐ bisphenol A
☐ phthalates
☐
☐
☐

- **Which type of assessment was used?**

- ☐ biological sampling
☐ environmental sampling (dust, etc...)
☐ questionnaire data (use of hair sprays, cosmetics, food containers,...), please specify_____
☐ occupational exposure / JEM
☐ dietary exposure
☐ other: _____

- **Details of the assessments (complete table with type of substance, medium, person, timing, and rough number of assessments):**

| Type of assessment | | Pregnancy (mother) | | | Birth (mother or child) | Post natal (child) | |
|--------------------|--------|-----------------------|--------------|-----------------------|-------------------------------|--------------------|--------|
| Pesticide | Medium | 1 st trim. | 2nd trim. | 3 rd trim. | | Age | Number |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| <i>Completed:</i> | | | | | | | |
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| <i>Planned:</i> | | | | | | | |
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C. Health Outcome Assessment

C1. Reproduction and Birth outcomes

- **Was data on reproductive and birth outcomes collected for the members of your cohort?**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part C2)

- **Use of a contraceptive method at the start of a pregnancy:**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

- **Time to pregnancy:**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

- **Infertility treatment before the index pregnancy:**

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

If yes, was the duration of the pregnancy attempt until the start of the infertility treatment recorded?

☐ yes
☐ no

- **Congenital anomalies:**

☐ yes. Please give %/number of subjects for whom this information was collected: ____
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

- **Specific anomalies of the male reproductive system:**

☐ yes.
☐ cryptorchidism (if planned, year ____)
☐ hypospadias (if planned, year ____)
☐ anogenital distance (if planned, year ____)
☐ no

- **Spontaneous abortions (until 21 weeks of amenorrhea)**

☐ yes. Please give %/number of subjects for whom this information was collected: ____
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no

- **Stillbirths (after 22 weeks of amenorrhea)**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

- **Medical termination of pregnancy**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

If yes, please indicate if information on the reason of the termination of the pregnancy is known, and if the presence of congenital malformations has been recorded.

- **Birth weight**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

If yes, please indicate how the data were collected:

- ☐ Self-reported from mothers
- ☐ Medical record, midwife or doctor reported
- ☐ Other, specify_____

- **Gestational Duration**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

If yes, what is the origin for the calculation of gestational duration?

- ☐ self-reported last menstrual period (by study subject)
- ☐ Medical record: midwife or physician assessed last menstrual period (on basis of self-report, but assessed and recorded by medically qualified person)
- ☐ ultrasound
- ☐ other:

- **Premature Rupture of Membranes**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

- **Onset of labour (spontaneous, induced, caesarean section before onset, ...)**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

- **Mode of delivery (spontaneous vaginal birth, operative vaginal birth, caesarean section)**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

- **Ultrasound measurements**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

If yes, describe how many ultrasounds, which gestational weeks:

• **Doppler measurements (of uterine, umbilical, fetal cervical arteries, or other)**

- ☐ yes. Please give %/number of subjects for whom this information was collected: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

If yes, describe the arteries concerned, which gestational weeks, how many (or percentage of) women:

C2. Neurodevelopment

- Was data on neurodevelopmental and behavioural outcomes collected for the members of your cohort?

- ☐ yes
- ☐ not yet, but planned. Please give predicted year of completion: 20____
- ☐ no (proceed to part C3)

- Which of the following outcomes were assessed in the children:

- ☐ neuropsychological assessment (e.g. developmental tests for executive function, memory, language, IQ)
- ☐ behaviour (ADHD symptoms, etc)
- ☐ autism symptoms
- ☐ school achievements/performance
- ☐ neurophysiology/neuroimaging: _____
- ☐ other: _____

- Details of neurobehavioural and cognitive development assessment of child (number completed or planned)

| Name of test/assessment and year (Bayley, McCarthy, Griffith, ...) | Birth | Post natal (give months/years of age) | | | | |
|---|-------|---------------------------------------|--|---------|--|--|
| | | e.g. 14 months | | 4 years | | |
| Dubowitz | | | | | | |
| Bayley scales of infant development (BSID) | | | | | | |
| Griffiths Mental Development scales | | | | | | |
| McCarthy scales of children's abilities (MSCA) | | | | | | |
| Wechsler Preschool and Primary scale of Intelligence (WPPSI) | | | | | | |
| Others: | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

- Which of the following assessments were completed in *mothers and fathers*:

| Type of assessment | Name of test | Timing | Number/% of cohort |
|------------------------|--------------|--------|--------------------|
| maternal IQ | | | |
| paternal IQ | | | |
| maternal mental health | | | |
| paternal mental health | | | |
| maternal stress | | | |
| Paternal stress | | | |

| | | | |
|---------------------|--|--|--|
| maternal attachment | | | |
| paternal attachment | | | |
| Other | | | |
| | | | |

C3. Allergies and Asthma

- **Was data on asthma and allergies collected for the members of your cohort?**

- ☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no (proceed to part C4)

- **Which of the following outcomes were assessed in the children:**

- ☐ asthma
☐ allergies (other than allergic rhinitis)
☐ allergic rhinitis (indoor/outdoor)
☐ eczema
☐ respiratory infections (upper/lower)
☐ food allergies

Asthma

- **Which of the following methods to assess asthma were used?**

- ☐ parental questionnaires / interview (wheezing, asthma symptoms)
☐ doctor's diagnosis of asthma (by study doctor or parent-reported doctor's diagnosis)
☐ lung function tests
 ☐ oscilometry
 ☐ spirometry
 ☐ bronchial challenge test
 ☐ tested reversibility (bronchodilators)
 ☐ interrupter technique (Rint)
 ☐ exhaled NO

Allergic Rhinitis

- **Which of the following methods to assess allergies were used?**

- ☐ parental questionnaires/ interview (sneezing, runny nose, nasal congestion, itching of the nose, and post nasal drip)
☐ doctor's diagnosis of allergy (by study doctor or parent-reported doctor's diagnosis)
☐ sensitization assessment (blood samples, SPT (skin prick test), urine samples)

Eczema

- **Which of the following methods to assess eczema were used?**

- ☐ parental questionnaires/ interview
☐ doctor's diagnosis of allergy (by study doctor or parent-reported doctor's diagnosis)

Allergic Sensitization Assessment

- **Were IgE-antibodies to common inhalant allergens analysed in biological samples?**

- ☐ yes
☐ no

If yes, describe the specific IgE measured:

- ☐ total IgE
☐ IgE mite
☐ IgE cat
☐ IgE dog
☐ IgE pollen
☐ IgE grass
☐ other, including food allergies

• **Were skin prick tests (SPT) performed?**

☐ no

If yes, indicate the specific SPT performed:

cat

dog

☐ agree
☐ poll

☐ mould

☐ others, including food allergens

- **Details of asthma and allergy assessment of child (number completed or planned)**

| Type of assessment and timing | | Birth | Post natal (give months/years of age) | | | |
|-------------------------------|--------|-------|---------------------------------------|--|--|--------------------|
| Outcome | Method | | | | | Number/% of cohort |
| | | | | | | |
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| Completed: | | | | | | |
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| Planned: | | | | | | |
| | | | | | | |

C4. Cancer

- **Is information on childhood cancers collected for your cohort**

☐ yes

☐ not yet, but planned. Please give predicted year of completion: 20_____

☐ no

- **Please describe how:**

☐ linkage to cancer registry

☐ other: _____

- **What is the estimated annual number of childhood cancer cases in your cohort**

0-1 years: _____

1-2 years: _____

2-5 years: _____

5-10 years: _____

10-15 years: _____

15-18 years: _____

(or other, convenient, age categories)

- **Are genotoxicity markers measured in your cohort?**

☐ yes

☐ not yet, but planned. Please give predicted year of completion: 20_____

☐ no

Details?

C5. Childhood growth and obesity, sexual maturation, other outcomes

- Is information on childhood growth, obesity, sexual maturation, or other metabolic and endocrine disorders, collected for your cohort?

☐ yes
☐ not yet, but planned. Please give predicted year of completion: 20____
☐ no, please go to section D

- Which of the following outcomes were assessed in the children:

☐ childhood growth and obesity
☐ indicators of metabolic syndrome
☐ diabetes
☐ sexual maturation
☐ other: _____

- Details of childhood growth and obesity assessments (give number/% completed or planned)

| Measure of growth/ body composition | Type of assessment (self-report, medical record, measurement, etc) | Birth | Post natal (give months/years of age) | | | | |
|-------------------------------------|--|-------|---------------------------------------|--|--|--|--|
| | | | | | | | |
| Weight | | | | | | | |
| Height | | | | | | | |
| Waist circumference | | | | | | | |
| Arm circumference | | | | | | | |
| Wrist circumference | | | | | | | |
| Fat/fat free mass by bioimpedance | | | | | | | |
| Other measure of body composition: | | | | | | | |
| | | | | | | | |

- Details of metabolic syndrome indicator assessments in children (give number/% completed or planned)

| Indicator | Type of assessment (include whether fasting samples...) | Birth | Post natal (give months/years of age) | | | | |
|----------------|---|-------|---------------------------------------|--|--|--|--|
| | | | | | | | |
| Blood pressure | | | | | | | |
| Cholesterol | | | | | | | |
| Cholesterol | | | | | | | |
| Triglycerides | | | | | | | |
| Glucose | | | | | | | |
| Insulin | | | | | | | |
| Other: | | | | | | | |
| | | | | | | | |

- **Details of sexual maturation assessments** (give number/% completed or planned)

| Measure | Type of assessment (self-reported child/mother, evaluated by doctor,...) | Birth | Post natal (give years of age) | | | | |
|---------------------------------|---|-------|--------------------------------|--|--|--|--|
| | | | | | | | |
| Tanner stage | | | | | | | |
| Puberal Development Stage | | | | | | | |
| Age at | | | | | | | |
| Age at voice change | | | | | | | |
| Gonadal axis hormones | | | | | | | |
| Other: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

- **Other outcome assessments, including other biomarkers of effect** (e.g. thyroid hormones, CRP, etc)

| Measure | Type of assessment | Prenatal (mother) | At birth | Post natal (give months/years of age) | | | | |
|---------|-----------------------|----------------------|----------|---------------------------------------|--|--|--|--|
| | | | | | | | | |
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D. Other information – including genetic and important covariates - all please comment

D1. Genotyping:

• **Have genetic analyses been performed**

- ☐ yes, GWAS
- ☐ yes, specific genes: _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

D2. Residential history and time-activity (tick which are available)

• **Home addresses available:**

- ☐ only once:
 - ☐ during pregnancy
 - ☐ at birth
 - ☐ during follow-up: week/month: _____
- ☐ residential history

• **Work addresses of mother during pregnancy:**

- ☐ yes
- ☐ no

• **School/daycare addresses of child**

- ☐ yes
- ☐ no

• **Were these addresses geocoded?**

- ☐ yes, specify which _____
- ☐ not yet, but planned. Please give predicted year of completion: 20_____
- ☐ no

D3. Time activity patterns

• **Was information on time-activity patterns collected:**

- ☐ for child
 - ☐ questionnaire, specify when _____
 - ☐ diary, specify when _____
- ☐ for mother
 - ☐ questionnaire, specify when _____
 - ☐ diary, specify when _____

D4. Sociodemographic variables

- ☐ mother's social class (coded from occupation), specify coding system _____
- ☐ father's social class (coded from occupation), specify coding system _____
- ☐ household income
- ☐ mother's education
- ☐ father's education
- ☐ mother's ethnic origin/country of birth
- ☐ father's ethnic origin/country of birth
- ☐ maternal age
- ☐ paternal age
- ☐ parity
- ☐ birth order
- ☐ child's sex

D5. Breastfeeding

- ☐ weeks of breastfeeding
☐ weeks of exclusive breastfeeding

D6. Diet and physical exercise**• Dietary assessments**

- ☐ yes:
☐ FFQ
☐ 24 hour recall
☐ other: _____
person (child/mother): _____
timing (e.g. stage of pregnancy, age of child): _____
- ☐ no

• Assessment of physical exercise:

- ☐ yes:
☐ questionnaire
☐ measurements
person (child/mother): _____
timing: _____
- ☐ no

D7. Medical history**• Is the following information collected for the parents?**

- ☐ family history
☐ pre-pregnancy medical history of mother
☐ pregnancy complications
☐ blood pressure measurements
☐ maternal hypertension
☐ preeclampsia
☐ maternal allergic history
☐ paternal allergic history

D8. Parental anthropometry

- ☐ maternal pre-pregnancy weight, height
☐ maternal pregnancy weight, height
☐ paternal weight/height

D9. Other/Comments

Annex 2: Assessment of birth outcomes in European birth cohorts participating in ENRIECO ^a

Table 1. Reproductive and birth outcomes ^a (* indicates that measurements are planned or ongoing but not completed).

| Cohort | Time to pregnancy | Congenital anomalies | Spontaneous abortion/stillbirths/terminations | Gestational age | Birth weight | Mode of delivery | Ultrasound measurements |
|----------------|-------------------|----------------------|---|-----------------|--------------|------------------|-------------------------|
| ABCD | X | X | X | X | X | X | |
| ALSPAC | X | X | X | X | X | X | X |
| ArcRisk-Norway | X | X | | X | X | X | X |
| BAMSE | X | | | X | X | X | |
| BiB | | X | | X | X | X | X |
| Co.N.ER | X | X | X | X | X | X | |
| Czech | X | X | X | X | X | X | |
| DARC | | | | X | X | X | |
| DNBC | X | X | X | X | X | X | X |
| Duisburg | | X | | X | X | X | |
| EDEN | X | X | X | X | X | X | X |
| ELFE | X* | X* | X* | X* | X* | X* | X* |
| Faroese | X | X | X | X | X | X | X |
| FLEHS I | X | | X | X | X | X | |
| GASPII | | | | X | X | X | |
| Generation R | X | X | X | X | X | X | X |
| Generation XXI | X | X | | X | X | X | X |
| GINplus | | | | X* | X | X* | |
| HUMIS | X | X | X | X | X | X | X |
| INMA old | X | X | X | X | X | X | |
| INMA new | X | X | X | X | X | X | X |
| INUENDO | X | X* | X | X | X | | |
| KANC | X | X* | | X | X | | X |
| KOALA | X | X | | X | X | X | |
| Krakow | | X | | X | X | X | |
| Leicester | | | | X | X | X* | |
| LISAplus | | | | X | X | X | |
| LUKAS | | | | X | X | X | |
| MAS | | | | X | X | X | |
| MoBa | X | X | X | X | X | X | X |
| NINFEA | X* | X* | | X* | X* | X* | |
| PARIS | X | | X* | X | X | X | |
| PCB cohort | | | X | X | X | X | |
| PELAGIE | X | X | X | X | X | X | |
| PIAMA | | | | X | X | X | |
| REPRO_PL | | X | X | X | X | X | X |
| RHEA | X | | X | X | X | X | X |

^a Details of each assessment (method, time period, number of subjects) are available on www.birthcohortsenrieco.net (Inventory of ENRIECO Cohorts 2011).

Table 2. Neurodevelopment outcomes^a (* indicates that measurements are planned or ongoing but not completed).

| Cohort | Cognitive function | Behaviour | Autism symptoms | Hyperactivity disorders | School achievements/performance | Mental health | Personality |
|----------------|--------------------|-----------|-----------------|-------------------------|---------------------------------|---------------|-------------|
| ABCD | X* | X | | X* | X* | | |
| ALSPAC | X | X | X | X | X | X | X |
| ArcRisk-Norway | | | | | | | |
| BAMSE | | | | | | | |
| BiB | | | | | X* | | |
| Co.N.ER | | | | | | | |
| Czech | | | | | | | |
| DARC | | | | | | | |
| DNBC | | X | X | X | X | X | X |
| Duisburg | X | X | | X | | | |
| EDEN | X | X | | X | | | |
| ELFE | X* | | | | | | |
| Faroes | X | X | X | X | X | X | |
| FLEHS I | X | X | X | X | | | |
| GASPII | X | X | | | | | |
| Generation R | X | X | X | X | | | |
| Generation XXI | | | | | | | |
| GINplus | | X | | X | | | |
| HUMIS | X* | X* | X* | X* | | | |
| INMA old | X | X | | X | | | |
| INMA new | X | X* | X* | X* | | | |
| INUENDO | | | | X* | | | |
| KANC | | | | | | | |
| KOALA | | X | X | X | X* | | |
| Krakow | X | X | X | X | | | |
| Leicester | | | | | | | |
| LISApplus | | X | X | X | | | |
| LUKAS | | | | | | | |
| MAS | X | | | | | | |
| MoBa | X* | X* | X* | X* | | | |
| NINFEA | X* | | | X* | | | |
| PARIS | | | | | | | |
| PCB cohort | X | X | X | X | | | |
| PELAGIE | | | | | | | |
| PIAMA | | | | | X | | |
| REPRO_PL | X* | | | | | | |
| RHEA | X | | | | | | |

^a Details of each assessment (method, time period, number of subjects) are available on www.birthcohorts-enrieco.net (Inventory of ENRIECO Cohorts 2011).

Table 3. Asthma, allergy, and respiratory outcomes, cancer, growth and obesity, metabolic syndrome, sexual maturation^a (* indicates that measurements are planned or ongoing but not completed).

| Cohort | Allergies & Asthma | | | | | | Cancer | Growth and obesity | Metabolic syndrome | Sexual maturation |
|----------------|--------------------|-----------|-------------------|--------|------------------------|----------------|--------|--------------------|--------------------|-------------------|
| | Asthma | Allergies | Allergic rhinitis | Eczema | Respiratory infections | Food allergies | | | | |
| ABCD | X | | | X | | | | X | X | |
| ALSPAC | X | X | X | X | | X | X | X | X | X |
| ArcRisk-Norway | | | | | | | | | | |
| BAMSE | X | X | X | X | X | X | | X | | X |
| BiB | | | | | | | | X | | |
| Co.N.ER | X | X | X | X | X | X | | X | | |
| Czech | X | X | X | | X | | X | | | |
| DARC | X | X | | X | X | X | | X | | |
| DNBC | X | | X | X | X | X | X | X | X | X |
| Duisburg | X | X | X | X | X | X | | X | | X* |
| EDEN | X | X* | X | X | X | X | X | X | X | |
| ELFE | X* | X* | X* | X* | X* | X* | X* | X* | X* | X* |
| Faroes | X | | X | X | | | | X | X | X |
| FLEHS I | X | X | X | X | X | | | X | | |
| GASPII | X | X | X | X | X | X | | X | | |
| Generation R | X | X | | X | X | X | | X | X | |
| Generation XXI | X | X | X | X | X | X | X | X | X | |
| GINIplus | X | X | X | X | | | | X | X | X |
| HUMIS | X | | X | X | X | X | X | X | | |
| INMA old | X | X | X | X | X | | | X | X | X* |
| INMA new | X* | X* | X* | X | X | X | X* | X | X | X* |
| INUENDO | | | | | | | | X* | | |
| KANC | | | | | | | | | | |
| KOALA | X | X | X | X | X | X | | X | X | |
| Krakow | X | X | | X | X | | | X | | |
| Leicester | X | X | X | X | X | | | X | X* | |
| LISApplus | X | X | X | X | X | X | | X | X | X |
| LUKAS | X | X | X | X | X | X | | X | X | X* |
| MAS | X | X | X | X | | X | | X | | X |
| MoBa | X | | X | X | X | X | X | X | X | |
| NINFEA | X* | | X* | X* | X* | X* | X* | X* | | X* |
| PARIS | X | X | | | X | | | X | | |
| PCB cohort | X | X | | X | | X | | X* | X* | |
| PELAGIE | X | X | X | X | X | X | | X | X | |
| PIAMA | X | X | X | X | X | X | | X | X | X |
| REPRO_PL | X | X | X | X | X | | X | X | | |
| RHEA | X | | X | X | X | X | X* | X | | |

^a Details of each assessment (method, time period, number of subjects) are available on www.birthcohortsenrieco.net (Inventory of ENRIECO Cohorts 2011).

References

Inventory of ENRIECO Cohorts. 2011. Homepage. Available: <http://www.birthcohortsenrieco.net/>. [accessed 6 July 2011].